

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003828**Date Inspected:** 08-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Makhmud Ashadi**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Deviation and Jacking Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance (QA) Representative Daniel L. Reyes was present during the welding of the structural steel components for the Tower Saddles relative to this project. The following was observed:

**Fabrication Shop # 4**

At the start of the shift the QA inspector traveled to the shop to observe the scheduled welding operation and the Quality Control (QC) Inspection of the Tower Saddle identified as T1-1. The Shielded Metal Arc Welding (SMAW) of the Partial Joint Penetration (PJP) groove welds was performed by Japan Steel Works, Ltd. personnel Yuchi Arai ID 08-5157, Satoru Watanabe ID 08-5159 and Masao Yamashita ID 73-4195. The Welding Procedure Specification (WPS) SJ-3012-2 was utilized by the welding personnel and was also used by Intertek Testing Services (ITS) QC inspector Makhmud Ashadi as a reference. The welding was performed in the Flat (1G) position with the weld metal deposited from above on the rib plate to stem plate connection. The QA inspector also observed the QC inspector monitor the production welding sequence utilizing the JSW Distortion Control Plan identified as SJ-3151 Rev. 3, Attachments 5 and 6 Step # 5.

The welding consumable utilized were identified as LB52A and manufactured by Hobart Brothers which appeared to comply with the American Welding Society (AWS) Specification A5.1 and the E7016 AWS Classification. The size of the electrode utilized by JSW welding personnel was 5.0 mm in diameter.

The QC inspector utilized a Hioki 3285 amp/volt clamp meter identified with JSW ID number CM030 to verify the Alternating Current (AC) welding parameters and an Anritsu HA-400E digital surface thermometer to verify the minimum preheat and maximum interpass temperatures.

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The QA inspector's observations were performed at random intervals during the shift. The QA inspector noted that it appeared the approved and latest revised WPS's were posted at the welding station and that each approved welder was entered in the latest revised Welding Personnel Log issued by Japan Steel Works, Ltd. The welding parameters, preheat and interpass temperatures were verified by the QA inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempilstik temperature indicators for the surface temperatures. The filler metal utilized by the JSW welding personnel was also verified. The QC inspector ITS personnel, Makhmud Ashadi appeared to perform the visual weld examinations, monitoring of the welding and the verification of the welding parameters in accordance with the contract documents.

See Weld Joints in Progress Inspected, below, in regards to QA observation of the welding parameters recorded during this shift on this date for the PJP groove welds identified as 7Y-6V(1-2), 7Y-7V(1-2) and 7Y-8V(1-3)

The following digital photographs illustrate the observations of the activities performed on this date.



Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	7Y-8V-(1-3)	SJ-3012-2	M. Ashadi	238 AC	24 AC	168 mm/m	128 Degrees C.	Yamashita
2	7Y-7V (1-2)	SJ-3012-2	M. Ashadi	241 AC	24 AC	163 mm/m	143 Degrees C.	Watanabe
3	7Y-6V (1-2)	SJ-3012-2	M. Ashadi	243 AC	25 AC	160 mm/m	143 Degrees C.	Arai

## Summary of Conversations:

There were no pertinent conversations relative to the project on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

**Inspected By:** Reyes, Danny

Quality Assurance Inspector

**Reviewed By:** Lanz, Joe

QA Reviewer